

Some Sphaeroceridae (Diptera), partly short-winged, collected in South Africa by Monsieur N. Leleup

by

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SYNOPSIS

The following new taxa are described: *Leptocera (Limosina) citrina* n. sp. (Natal), *umbrosa* n.sp. (Transvaal), *costata* n. sp. (Transvaal); *Leptocera (Poecilosomella) multicolor* n. sp. (nominate form, W. Cape Prov.), subsp. *pallidifemur* n. subsp. (Natal), subsp. *lamellata* n. subsp. (E. Cape Prov.); *Limosinella* n. gen., type *polita* n. sp. (Transvaal, Natal). The nominate form of *multicolor* is long-winged, whereas both subspecies named are brachypterous. *L. polita* is a dimorphic species, being brachypterous in the Transvaal and macropterous in Natal. The other species described have normal wings.

I have described elsewhere (Richards 1968) the seventeen South African species of wingless Sphaeroceridae of the genus *Scutellisetia* Richards, 1960, and explained how they were obtained from litter by Monsieur Leleup. With the numerous specimens of *Scutellisetia* was captured a much smaller number (45 in all) of fully winged or, in some cases, dimorphic species which seem to have no close relation to *Scutellisetia* or to one another. They are described here separately but particularly in one species there is some evidence as to the way in which such genera as *Scutellisetia* may have evolved. A feature of *Scutellisetia* is the very restricted distribution (at least as far as our knowledge goes) of each species, and the occurrence in one habitat of one, two or three species of the same genus. In a species such as *Leptocera multicolor* described below the distribution is almost as wide as that of the whole genus *Scutellisetia* though with more gaps, perhaps because much fewer specimens have been collected. Those from Cape Peninsular are all long-winged and presumably fully capable of flight. Samples of what seem to be no more than at most subspecies of the long-winged form from Fort Beaufort district in Cape Province and Lions River district in Natal are more or less short-winged and in the former case show a slight reduction of the halteres also. One must assume that a genus such as *Scutellisetia* went through a stage when it consisted of one or a few closely allied di- or polymorphic species and that the long-winged ancestors have disappeared. There is a suggestion that once the halteres have been lost, long-winged morphs do not reappear (Richards, 1965: 415).

One other species, described in a new genus as *Limosinella polita*, is also dimorphic but it seems to be rather isolated in the family. All the specimens were preserved in alcohol and the holotypes are being placed in the Natal Museum and some paratypes in the Transvaal Museum and the British Museum (N.H.).

Leptocera (Limosina) citrina sp.n.

♂. Yellowish-orange. Fore tibia and basitarsus brown. Some black marks on sixth tergite and on the left posterior margin of the fifth sternite. Sides of first sternite with a blackish line. Wings slightly yellowish. Halteres yellow. Length about 2.0 mm., length of fore wing from basicosta to apex of R_{4+5} 1.34 mm.

Eyes large, circular. Buccae in front three-quarters as wide as third antennal segment, rather more than twice as wide behind, oral margin with about seven minute bristles, bucca with three somewhat large bristles above these, the most anterior one being fully one-third as long as vibrissa which is stout but not very long. Mouth-edge and facial knob scarcely protruding. Antennae approximated, first segment with a minute bristle on inner side, third segment with short dense pubescence, arista 4 times as long as antenna with short pubescence. Frontal area and orbits not marked off, 3 small frontal bristles, two outwardly directed anterior and one inwardly directed posterior superior orbital, one

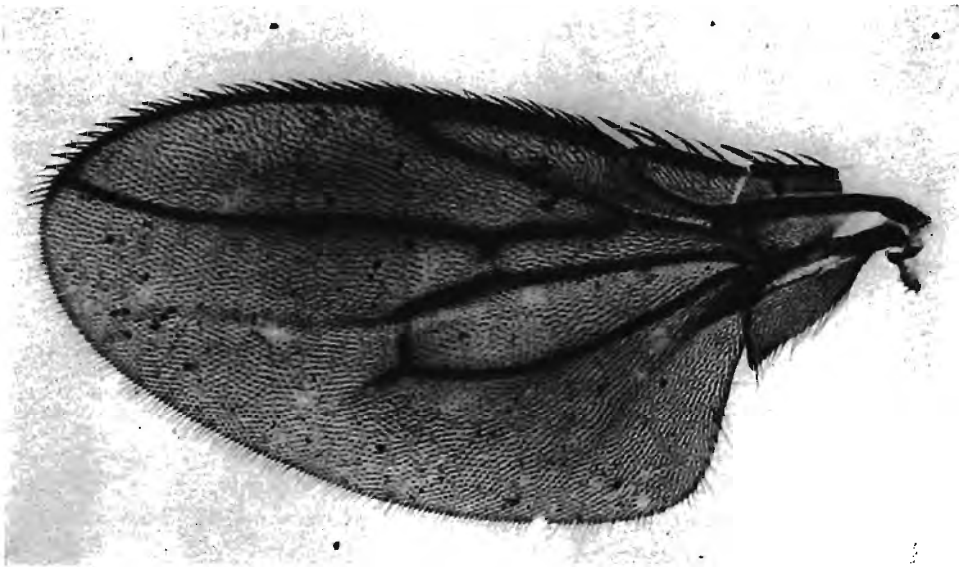


Fig. 1 *Leptocera (Limosina) citrina* sp. n. left wing. Length 1.30 mm.

strong outwardly and backwardly directed external vertical, a row behind eyes of small bristles of which the most dorsal one is a little larger and directed inwards, a small convergent postvertical (its tip just meeting that of its fellow), a strong divergent ocellar bristle on each side. Mesoscutum with about ten longitudinal rows or microchaetes, none enlarged, on each side, a moderate humeral, a small notopleural, prealar and prescutal interalar, a strong and a weak postalar, a strong presutural dorsocentral and a weak one about on suture. Scutellum elongate with four long bristles, one strong sternopleural bristle. Prosternum absolutely linear. Wings (fig. 1) normal with second costal sector three-quarters as long as third, costa ending at R_{4+5} , R_{2+3} proceeding almost straight to costa with which

it makes a rather acute angle, R_{4+5} feebly sinuous, last part clearly bent a little forwards but ending near wing-tip, intermedian cross-vein separated by nearly twice its length from $r-m$, posterior corner of cell with a short vein, anal vein practically not indicated, alula narrow and pointed. Fore coxa with three rather strong bristles on outer side of distal half, femur with four posteroventral bristles on distal half, tibia with short somewhat sparse dorsal setulae. Mid coxa with two stout black bristles, the outer one the longer but not very long, trochanter without bristles, femur with a group of short ventral bristles at base (denser posteriorly) and two stout preapical anterior bristles, tibia with a strong anterodorsal and weaker posterodorsal at $\frac{1}{4}$, surmounted by a small dorsal bristle, a strong pair of bristles at $\frac{3}{4}$, surmounted by two minute bristles, distal half of ventral side with dense short spines, apicoventral bristle short, a somewhat shorter anterior and posterior apical bristle, basitarsus a little longer than half as long as tibia with stout rather close setulae beneath. Hind legs without bristles, tibia with a microscopic anteroapical spur, basitarsus with a minute ventral bristle at apex, second segment nearly twice as long as first. Abdomen with short bristles, tergites 2-5 each of about the same length, 6 confined to left side and somewhat enlarged but lying largely ventrally, sternite 3 about four times as wide as long, with short bristles, sternite 5 a little asymmetrical with a weak emargination more on the right side, left of emargination preceded by two short stout oblique bristles. Genitalia (figs. 2 a and b) rather large, ninth tergite somewhat asymmetrical, with a pair of longish dorsal bristles and a few short ones; anal split oval, without sclerotised patches; cerci strongly asymmetrical, right one fused to tergite, bilobed, outer lobe a little larger and bearing four long bristles, left cercus a little more separate from tergite, long, finger-shaped and bearing one very long outer bristle, tergite below where the cerci join it with a number of longish bristles; genital forceps also asymmetrical, with an ovoid basal part which on the right-hand one bears four bristles, on the left two, right forceps with inwardly curved blackened hook, left forceps with a considerably longer almost straight, pointed process with a black tip; posterior gonapophyses rather closely approximated, strongly curved downwards, left one a little expanded at apex; aedeagus symmetrical, very large, with black lateral struts produced into a strong dorsal tooth towards the apex, beyond this the struts convergent and meeting at apex.

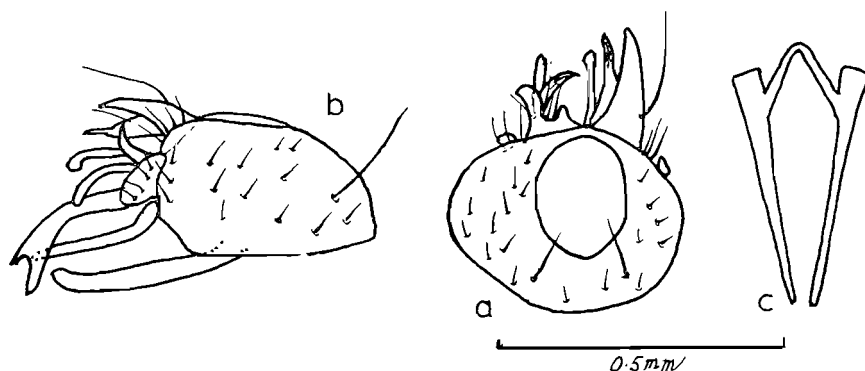


Fig. 2 *Leptocera (Limosina) citrina* sp.n. ♂ genitalia (a) dorsal, (b) right side, (c) aedeagus.

Holotype and only specimen, South Africa, Natal: Lions River district, Howick, up on the falls of the Umgeni R., left bank in herbaceous site, at base of clay talus with schisty pebbles, by sieving, October, 1961, 1 ♂ (*N. Leleup*: ZA 77=208).

Only one other species has been described which is entirely orange-yellow, viz. *L. (L.) lutea* Richards, 1963 from the W. Caroline Is., in the Pacific but that species has two postsutural dorsocentrals and vein R4+5 straight. With my very limited knowledge of the genitalia in the subgenus, this species seems quite peculiar.

***Leptocera (Limosina) umbrosa* sp.n.**

♂ ♀. Black, probably dull; antennae and legs yellow-brown, third antennal segment somewhat infuscate. Wings light brownish, halteres whitish. Length 1.3 - 1.4 mm.

Eyes and ocelli normal. Buccae in front fully two-thirds as wide as third antennal segment, buccal bristles small, anterior one 1|5 as long as strong vibrissa, mouth-edge hardly upturned, facial knob scarcely developed, antennae not widely separated and normally divaricate, first segment with a minute bristle on inner side, arista six times as long as antenna with long pubescence. Head with frontal area rather broad and parallel-sided, frontal bristles small, other head bristles as in *L. costata* sp. n., (p.98) anterior-most superior orbital and postvertical bristles rather small. Mesoscutum with one small humeral bristle, two pairs of dorsocentrals, a short one on the suture and a long one half way between the first and the scutellum, microchaetes short in numerous rows, none enlarged; scutellum with hind margin curved, shape slightly shorter than semicircular, with two pairs of long bristles; sternopleuron with one long bristle; prosternum linear with a short wide triangular expansion posteriorly. Wings (fig.3) normal, with costa having only short

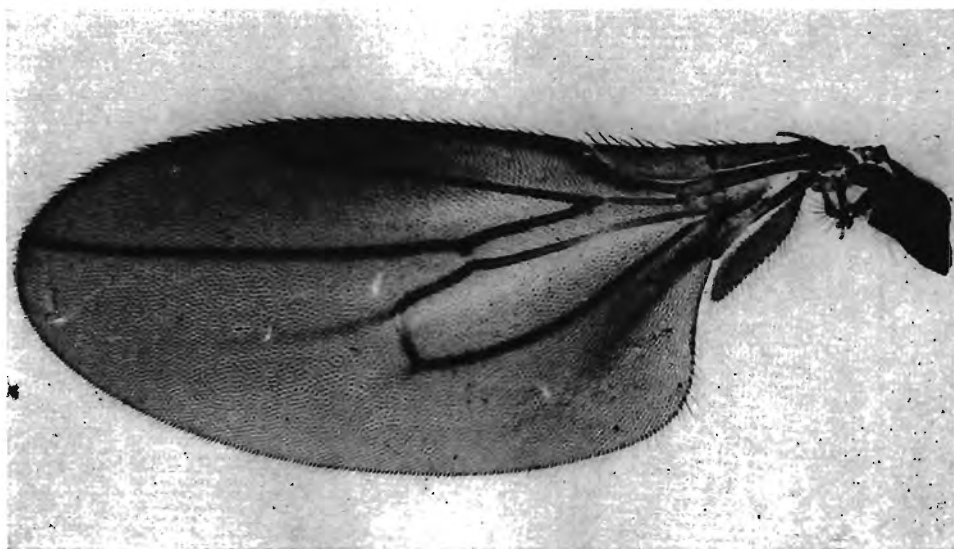


Fig. 3 *Leptocera (Limosina) umbrosa* sp.n. left wing. Length 1.05 mm.

bristles, second sector one and a half times as long as third, ending at R_{4+5} which ends near the wing tip, R_{2+3} almost straight, very little bent onto costa even where they meet, R_{4+5} straight, distance between im and $r-m$ two-thirds as long as first sector of R_{4+5} , nearly one and a half times as long as $r-m$, M_{1+2} produced beyond $r-m$ as a very weak vein to half way to margin, cell only moderately wide, posterior angle not quite rounded, anal vein a weak fold, nearly straight, alula narrow and pointed. Fore leg with a posteroventral row of bristles on distal half of femur, tibia without bristles, tarsi narrow; mid femur in ♂ with a complete posteroventral row of short erect bristles and a somewhat longer ventral bristle near base, bristles at apex of tibia ventrally slightly comb-like but a short apicoventral present, ♀ without these bristles on femur and apicoventral bristles of tibia long, both sexes on tibia with a long anterodorsal bristle at $1/3$ surmounted by a small bristle, a long dorsal bristle at $4/5$ surmounted by small antero- and posterodorsal bristles, basitarsus rather long, fully half as long as tibia, with rather fine setulae beneath; hind leg with no bristles on femur, tibia with no spur but a distinct but not very long dorsal bristle at $4/5$, second tarsal segment nearly twice as long as first. Abdomen rather elongate, well sclerotised, segments 3 and 4 of equal lengths, 5 a little shorter and narrower in ♂, bristles mostly short, one longer pair on tergite 5, sternites with short bristle, sternite 4 two and a half times as broad as long in ♂, rather less wide in ♀; ♂ sternite 5 relatively long with a deep, semicircular emargination on central third, partly filled in by irregular sclerotisation at a lower level, genitalia (figs. 4a, b) small, ninth tergite with two pairs of long bristles and a number of short ones, anal split broad oval without sclerotised patches, aedeagus with triangular expansions at base which are directed forwards; cerci unsclerotised so that there is a gap in the ninth tergite in front; forceps small but very complex, attached

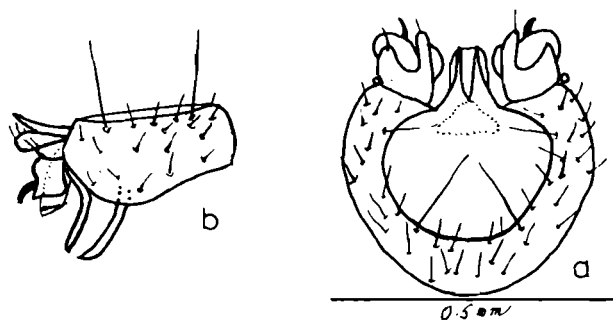


Fig. 4 *Leptocera (Limosina) umbrosa* sp.n. ♂ genitalia (a) dorsal, (b) right side.

rather low down, consisting of an oval dorsal piece from which project a longer inner lobe and a short outer one, both lobes narrow (especially inner one) and both ending in a thin spike, below this part of the forceps is another broadly triangular lobe from the end of which a small hook projects inwards and downwards; posterior gonapophyses approximated, pointed-finger-shaped, curving upwards so that they lie almost entirely above the forceps, a small bristle-bearing process on outer side of base of gonapophyses; aedeagus short, generally cylindrical but angled beneath, very dark. Female cerci long, each with a long dorsal, a long apical and two short ventral bristles which are a little sinuous.

S. Africa, Transvaal: Pietersburg district, source of Helpmekaar R., lower edge of Woodbush, in humus, September, 1960, ♂ holotype, ♀ paratype (*N. Leleup*: ZA 20), same place, forest of Woodbush, in humus, September, 1960, 2 ♀ paratypes (*N. Leleup*: ZA 16A).

In Duda's key to the subgenus *Limosina* (his *Scotophilella*) (1925:153) it runs down to *L. (L.) empirica* (Hutton) (= *pectinifera* Villeneuve) but the legs are yellow, not black, the antennae yellow not brownish, the lower part of the pleuron brownish, not black, the wings brownish, not hyaline. The long bristles on the mid tibia at 1|3 and 4|5 are not obviously paired and the second costal sector of the wing is clearly one and a half times as long as the third. The genitalia seem, at least superficially, more like those of *L. (L.) flavipes* (Meig.) (= *minutissima* Zett.) or even of *Mesaptilotus* Rich.

In Spuler's key to the American species (1925:70) it runs to couplet 31 but has a dorsal bristle near the apex of the hind tibia and the arista seems to be much longer.

***Leptocera (Limosina) costata* sp.n.**

♀. Blackish; much of buccae, most of antennae reddish-brown; sides and narrow posterior strip of mesoscutum, posterior part of pleuron, much of disk of scutellum, somewhat reddish tinged; legs dark reddish-brown; abdominal tergites 1-5 with anterior half of each pale, submembranous, pleural area wide, white, sternites light brown. Wings somewhat infusate, halteres whitish. Length about 1.6 mm.

Eyes and ocelli normal. Buccae in front half as wide as third antennal segment, all buccal bristles small, vibrissa long, mouth-edge a little upturned, facial knob scarcely developed, antennae not widely separated, normally divaricate, first segment with a minute bristle on inner side, arista 4-5 times as long as antenna, with very long pubescence. Head with frontal area rather broad and parallel-sided, frontal bristles small, two anterior and one posterior superior orbital bristle, an external vertical, postvertical and ocellar bristles, small hairs behind the eye sparse. Mesoscutum with one moderately long humeral bristle and a pair of long posterior dorsocentrals, microchaetes partly rubbed off but evidently short and in numerous rows; scutellum about as long as broad, hind margin strongly curved, with 4 long bristles; one moderately long, fine sternopleural bristle; prosternum linear with a short very transverse triangle attached posteriorly. Wings (fig. 5) with costa having only short bristles, second sector about three-quarters as long as third, produced for beyond R_{4+5} which ends considerably more in front of wing-tip than the production of M_{1+2} is behind it, R_{2+3} just before its apex rather strongly curved onto costa; R_{4+5} straight; distance between *im* and *r-m* two-thirds as long as first piece of R_{4+5} , one and a third times as long as *im*, cell wide, its posterior corner with a very short spur, anal vein convex forwards but very feeble, alula narrow and pointed. Fore leg with a posteroventral row of bristles

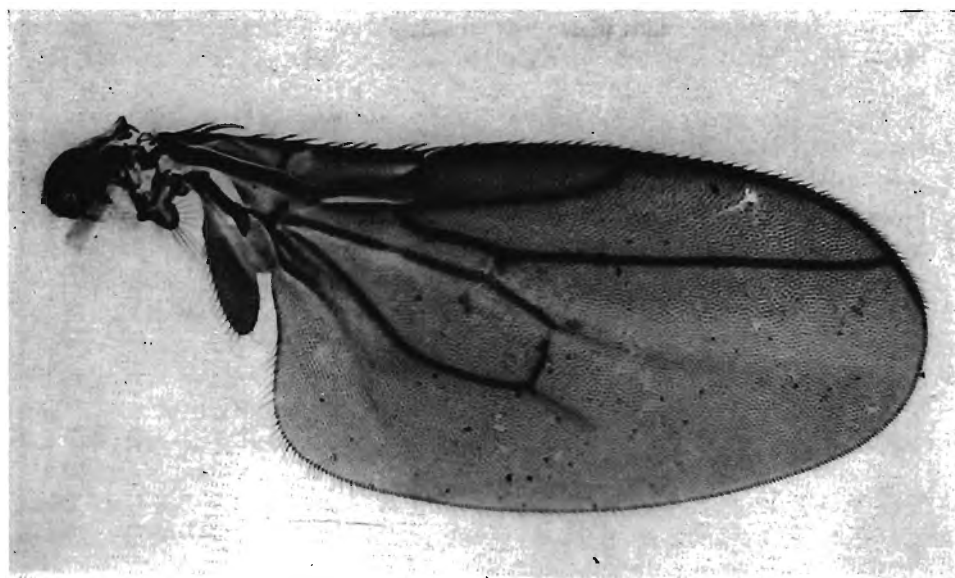


Fig. 5 *Leptocera (Limosina) costata* sp.n. right wing. Length 1.45 mm.

on the femur, mostly on the distal half, tibia without bristles, tarsi perhaps a little broad; mid leg with a small anterior preapical bristles on femur, tibia with a moderate anterodorsal bristles at 1|3, a strong dorsal bristle at 4|5 surmounted by a considerably smaller posteroventral, a small mid ventral and a strong apicoventral bristle, basitarsus rather long, about half as long as tibia, with somewhat coarse setulae beneath; hind leg without bristles, tibia with a microscopic, pale anterior spur, second tarsal segment nearly twice as long as first. Abdomen (fig. 6) with most of first tergite and large central triangle on second pale, tergites 3-5 with a narrow pale basal strip, 1-5 brown, 6-8 black, bristles short and sparse but somewhat longer on 6-8 where several are a little longer than 6+7, tergites 3-5 progressively a little shorter, 6 and 7 very short and transverse, shining, tergite 8 centrally mem-

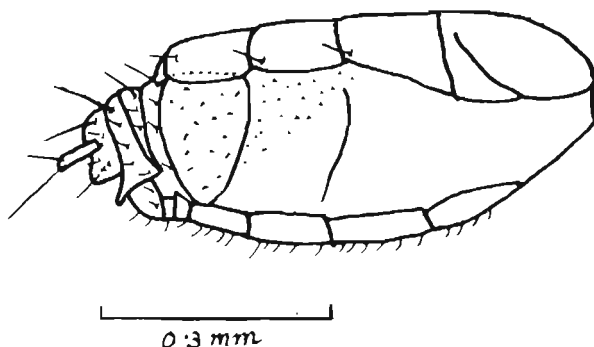


Fig. 6 *Leptocera (Limosina) costata* sp.n. ♀ abdomen from right.

branous but quite broad at sides where it curves down to overlap the sternite and is produced into a sharp point, directed obliquely backwards; cerci rather long, more than twice as long as broad, with a long, almost straight apical bristle and a shorter more dorsal one; pleural region large, swollen, whitish with scattered short bristles in posterior half; sternites rather narrow, with short bristles, sternite 4 about twice as wide as long.

S. Africa, Transvaal: Pietersburg district, forest of Woodbush, in humus, September, 1960, 1 ♀ holotype (*N. Leleup*: ZA 16A); Transvaal: Pilgrim's Rest district, forest of Mariepskop, 1400 m., in humus, August, 1960, 1 ♀ paratype (*N. Leleup*: ZA 8).

In Duda's key (1925:153) it runs down to couplet 51 but differs from *L. opaca* Duda from Kilimanjaro (1♀) which has the second costal sector as long as, not so clearly shorter than, the third; median cell with its posterior vein (M_{3+4}) shorter; alula more pointed; arista with its hairs only moderately long; halteres black with a yellow stalk, not entirely whitish; no mention is made of the peculiar ventral point to the eighth tergite but this might not have been visible in the single dry, pinned specimen. It differs from *L. flavipes* (Meig.) (= *retracta* Rond.) which appears in the same couplet in having a long, hair-like bristle on the cerci instead of a short, stout, spine-like one. *L. darwini* Richards, 1931 also runs down here but has an extra small bristle at the base of the scutellum, making six in all.

It is evidently close to *L. opaca* Duda.

Leptocera (Poecilomella) multicolor sp.n.

♂ ♀. Head orange, elongate spot above vibrissa, dorsal side of third antennal segment and back of head in part, darker. Thorax orange, mesoscutum brown, scutellum and mediotergite dark brown, sternopleuron with a longitudinal brown stripe just below dorsal margin. Abdomen blackish. Legs pale yellow-brown, fore tibia, femur and basitarsus black, fore tarsal segments 2-5 white, mid and hind femur with a dark ring near base, mid and hind tibia with knee and rings at $\frac{1}{2}$ and $\frac{3}{4}$ dark brown. Wings light brown with hyaline spots in cell R_3 (two), below R_5 , and in much of median cell and spot beyond it, and in anal region (two). Halteres with pale stalk, knob blackish with pale area dorsally before apex. Length about 1.6 mm.

Eyes large subcircular. Buccae in front about half as wide as third antennal segment more than three times as wide behind, oral margin with about five small bristles, buccae above with four small bristles, none more than one-quarter as long as the long vibrissa. Mouth-edge and facial knob scarcely protruding. Antennae approximated, first segment with a minute bristle on inner side, arista four times as long as antenna with short pubescence. Frontal area and orbits not marked off, 3 small frontal bristles, two outwardly directed anterior and one outwardly directed posterior superior orbital, one outwardly and backwardly directed external vertical, a row behind eyes of small bristles of which the most dorsal one is directed inwards, a small postvertical (its tip just meeting that of its fellow) and a large divergent ocellar bristle on each side. Mesoscutum with 10-12 longitudinal rows of microchaetes, none enlarged, on each side a small humeral, a moderate notopleural and prealar, a strong and a weak postalar, a strong dorsocentral, a little way in front of scutellar margin on each side; a second dorsocentral on the suture is probably present but in the holotype represented only by socket. Scutellum elongate with four strong bristles, one

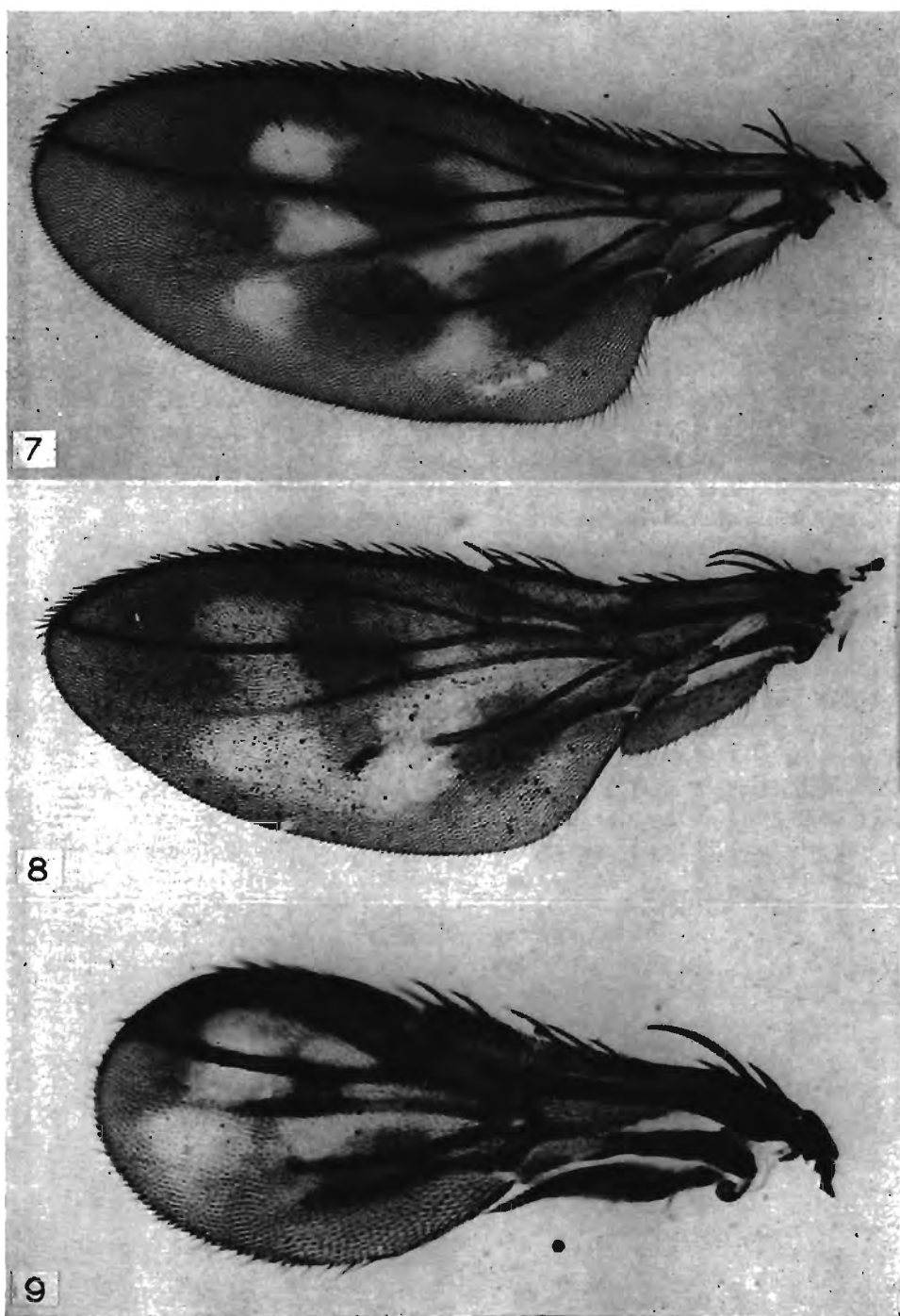


Fig. 7-9 *Leptocera* (*Poecilosomella*) *multicolor* sp.n. (7) nominate subspecies, left wing, length 1.31 mm.; (8) subsp. *pallidifemur* subsp.n., left wing, length 1.24 mm.; (9) subsp. *lamellata* subsp.n., left wing, length 0.67 mm.

strong sternopleural bristle. Prosternum absolutely linear. Wings (fig. 7) long, as long as abdomen or longer, with second costal sector three-quarters as long as third, costa ending at R_{4+5} , R_{2+3} proceeding straight to costa and then curved forwards when near costa with which it makes an acute angle, R_{4+5} rather distinctly bent forwards ending well in front of wing-tip, intermedian cross-vein separated by distinctly less than twice its length from $r-m$, posterior corner of cell with a distinct short vein, alula narrow and pointed. Fore coxa with no strong bristles, femur with 3-4 preapical anteroventrals on last quarter, tibia with rather stout, oblique, rather close, dorsal setulae, tarsi a little widened. Mid coxa with four bristles, none stout, femur in ♂ with three short, stout, oblique, ventral bristles at base, followed by about three thinner, more widely spaced bristles, one strong and one small anterior preapical, tibia with a pair of bristles (anterior one a little the larger) at $\frac{1}{4}$, two strong almost paired bristles surmounted by two minutes ones at $\frac{3}{4}$, ♂ with a rather short apicoventral and a small apical anterior, a comb of short dense black bristles at apex ventrally, ♀ without the comb and with a longer apicoventral, basitarsus clearly longer than half the tibia with coarse black setulae beneath. Hind legs without bristles, tibia without even a microscopic anterior spur, second tarsal segment about one and half times as long as first. Abdomen with segments 2-5 each of about the same length, bristles short, only a little longer on tergite 5, tergite 6 in ♂ confined to the left side and feebly triangularly dilated, sternites shining with sparse bristles, sternite 3 four times as long as broad, sternite 5 short, widely emarginate, with a subapical fringe of bristles which are somewhat longer on each side of central third where it is slightly more emarginate and in centre with a short wide process bearing about 5 short much flattened bristles. Genitalia small with rather numerous quite long bristles, anal split oval, with very weak sclerotised patches; cerci rather small, subrectangular, fused to ninth tergite and to one another, with one long and many short bristles; forceps with a broad but rather short oval outer lobe, curving a little inwards, and a narrow pointed lobe attached to the inner side of its base and of about equal length, outer lobe with many short bristles, inner lobe of left a little longer and narrower than one of right; posterior gonapophyses converging then touching one another, short, straight, pointed, anterior gonapophyses visible as wide pointed processes projecting on each side of base of aedeagus; aedeagus moderately large, lateral struts almost parallel, curving somewhat and joining at the end beyond which is a small submembranous projection. Female cerci rather long, each with one moderately long dorsal, one long apical bristle which is nearly straight and two or three shorter ventral bristles.

South Africa, Cape Province: Cape Pansinula, Muizenberg, "Waterval", humus under shrubs, December, 1960 1 ♂ holotype (*N. Leleup*: ZA51); east side of Table Mt., Kirstenbosch, 300 m., humus in forest, November, 1960, ♂ 4 ♀ paratypes (*N. Leleup*: ZA 39, 39A); Table Mt., small wooded hill of Bats cave, humus under *Podocarpus*, December, 1960, 2 ♂ 3 ♀ paratypes (*N. Leleup*: ZA43).

This is the nominotypical form with long wings; it is compared below with the two other subspecies. The length of the wings, the specimens being in the order given above, is as follows:

♂ ♂ 1.12, 1.43, 1.59, 1.23, ♀♀ 1.44, 1.54, 1.64, 1.30, 1.59, 1.53, 1.50 mm.

This is one of the anomalous species of subgenus *Peocilosomella* in which although the wings are banded and the legs are maculated, there are only two pairs of bristles on the mid tibia and the venation is ordinary (R_{2+3} not sharply bent at right angles or with a spur; R_{4+5} not grossly sinuate). The third antennal segment is slightly elongate and pointed but the arista is very clearly preapical. In Duda's key (1925:82) it runs to couplet 3 but while it has the last four segments of the fore tarsi white, no segments of the hind tarsi are white and both mid and hind tibiae are dark ringed.

The following species described since Duda's paper are much darker than *L. multicolor* and have no segments of the tarsi white (they also differ in various other ways) — *L. giraffa* Richards, 1928, *L. tincta* Vanschuytbroeck, 1950, *L. melania* Vanschuytbroeck, 1950, *L. pectiniterga* Deeming, 1964, *L. apicata* Richards, 1964.

Of those with partly white tarsi, *L. pictitarsis* Richards, 1938 has the head and thorax almost entirely black, the wings with fewer pale marks and the ♂ mid femur and tibia unmodified.

L. maxima Vanschuytbroeck, 1950 has R_{2+3} bent at right angles and R_{4+5} grossly sinuate.

L. niveipes Vanschuytbroeck, 1950 has head and thorax of a similar colour but the mid tibia has three pairs of bristles and the anterior tarsi are brown.

L. mirabilis (Vanschuytbroeck, 1951) which has fore tarsal segments 1-3 white, has the hind tarsi partly white, R_{2+3} bent at right angles and with a spur, R_{4+5} grossly sinuate.

Leptocera (*Limosina*) *defecta* Richards, 1965 which is another anomalous species but still less like a *Poecilomella* has R_{4+5} straight, the thorax blackish-brown and the hind legs not annulated.

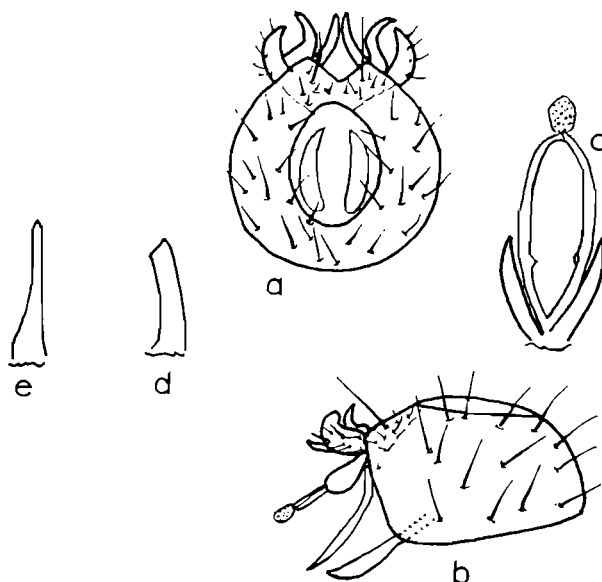


Fig. 10 *Leptocera* (*Poecilomella*) *multicolor* sp.n. subsp. *multicolor* subsp.n. ♂ genitalia (a) dorsal, (b) right side, (c) aedeagus dorsal, (d) posterior gonapophysis from right, (e) posterior gonapophysis of subsp. *lamellata* subsp.n. from right.

***Leptocera (Poecilosomella) multicolor* sp.n. subsp. *pallidifemur* subsp.n.**

♂ ♀. Very similar to the nominotypical form but wings (fig. 8) short, extending to the end of tergite 2, 3 or 4; venation normal in 3♀ but crossvein *im* missing in 1 ♂ 2♀, length of wings ♂ 0.37, ♀ 0.25-0.62 mm. Halteres normal, knob dark with a pale spot. Fore femur more or less extensively pale beneath, especially proximally, sometimes the whole proximal third is pale. There is some indication of a narrow central and broader lateral pale stripes on the mesoscutum. Mid femur in ♂ with ventral bristles at base scarcely visibly modified, ♂ mid tibia with ventral setulae towards apex scarcely denser or comb-like, but apicoventral a little shorter than in ♀. Genitalia as in nominotypical form.

South Africa, Natal:Lions River district, Howick, up the rapids of the Umgeni R., humus under shrubs, October, 1961, ♂ holotype 5 ♀ paratypes (*N. Leleup*: ZA 77 (207).).

***Leptocera (Poecilosomella) multicolor* sp.n. subsp. *lamellata* subsp.n.**

♂ ♀. Very similar to the nominotypical form but third antennal segment not darkened; fore femur with a pale ring just before the middle, mid and hind femur usually with a dark ring near middle, sometimes faint or on mid femur absent in ♀. Wings (fig. 9) short, light fuscous with a broad central hyaline band but pattern rather variable. Halteres reduced, little distinction between stalk and knob, entirely pale. Length ♂ 1.3-1.7, ♀ 1.5-1.9 mm.

Anterior one of two anterior superior orbitals smaller, not more than half as long and much finer than the other, postvertical bristles smaller, tips not meeting. Wings hardly reaching the end of tergite 2, size varying with that of whole insect, length ♂ 0.44-0.59, ♀ 0.30-0.33 with one 0.52 mm. venation usually reduced with R_5 ending well before wing tip, M_{1+2} ending soon after *r-m*, median cell and cubito-anal veins not developed, alula not developed but in some specimens veins only rather shortened and *im* missing, alula small. Mid femur in ♂ with bristles at base beneath scarcely modified, three or four of the microchaetes just a little thickened, apex of mid tibia internally with no comb of short bristles, apicoventral long in both sexes. ♂ genitalia very similar but posterior gonapophyses linear in dorsal view but in lateral view forming quite wide lamellae.

South Africa, Cape Province; Fort Beaufort district, Katberg, humus in forest, January, 1961, ♂ holotype, 3 ♂ 5♀ paratypes (*N. Leleup*: ZA64).

In my key to African short-winged species of *Leptocera* (1965:454), these two subspecies could be made to pass to couplet 2 (ignoring the fact that the mid tibia has no mid ventral bristle and the postvertical bristles are shorter). They then run to couplet 3 where they differ from *L. bicolor* Rich. (Elgon) because there are more than four rows of microchaetes in front and the abdomen is blackish; the arista is also a little longer.

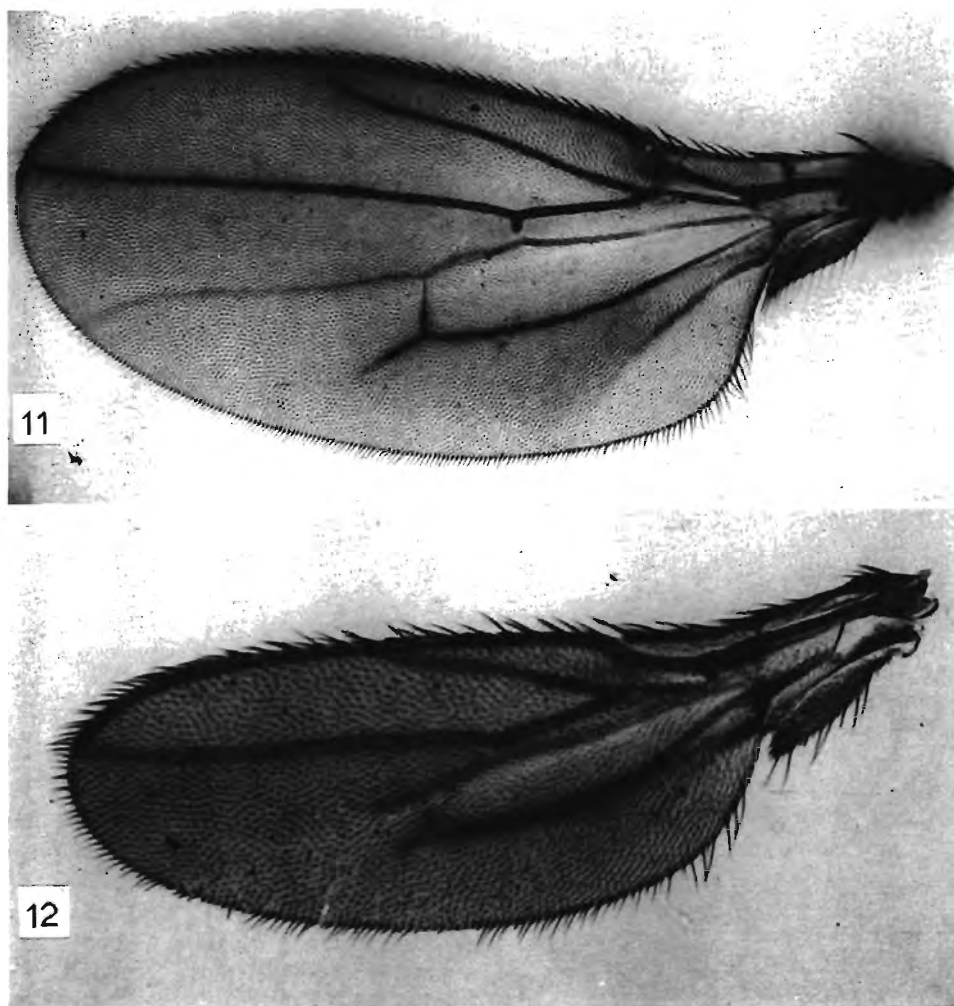
They differ from *L. pleurofasciata* Rich. (Kenya to Tanganyika) because their fore tarsal segments 2-5 are white and the fore femur is largely black, the fore coxa and trochanter are not whitish, the arista is shorter, the head and thorax paler and the genitalia are very different.

These two subspecies are very close to the fully winged form and it would be desirable to have more material to determine their status. Possibly, with extensive material the species would be shown to be generally unstable. Their possible significance in understanding the evolution of wingless forms has already been alluded to.

***Limosinella* n.gen.**

Rather like an elongate species of *Leptocera* Oliv. subg. *Limosina* Macq. but face evenly convex (rather as in a *Pipiza*) and shining, postvertical bristles absent; basal scutellar bristles very short; ♀ sternites 2-5 desclerotised, pale with irregular black spots. Long-winged form with venation like *Limosina*. Brachypterous forms which are commoner have essentially similar venation. ♂ genitalia very peculiar with the forceps having a dorsal lobe borne on a long narrow stalk and a large ventral lobe bearing spikes at its outer ends.

Type of the genus *Limosinella polita* sp.n.



Figs. 11-12 *Limosinella polita* gen.n., sp.n. (11) left wing, macropterous form ♀, length 2.0 mm.; (12) left wing of brachypterous form ♂, length 1.0mm.

In my key to flightless species (1965:455) it runs to couplet 5 (if one ignores at couplet 3 that the eyes are a little small), then to couplet 6 (though the ocelli are very small), then to couplet 8 though the basal scutellar bristles are minute and there is no real row of small bristles behind the eye), then couplet 10 (though the prosternum is not absolutely linear) and finally to couplet 12 where it runs to subg. *Limosina* Macq. but differs from that group as noted above.

***Limosinella polita* sp.n.**

♂ ♀. Shining black; antennal segments 1-2 brown, arista pale; legs entirely yellow-brown, coxae if anything paler, apices of four hind femora slightly darkened. Wings slightly infusate, especially in longer winged specimens, venation light brown. Halteres whitish. Length ♂ 1.94-2.43, ♀ 2.05-2.62 mm.

Long, narrow species, about four times as long as thorax is broad. Wings long or shortened, extending to about the end of tergite 3, but venation complete and of the *Lep-tocera* type. Halteres fully developed. Eyes somewhat small, ocelli very small, probably not functional, clearly in front of posterior margin. Buccae in front three-quarters as wide as third antennal segment, two and a half times as wide behind, posterior corner a rounded right angle. Buccae with about three minute bristles, vibrissa distinct but not very long. Mouth edge a little receding, whole face feebly convex both longitudinally and transversely, convexity reaches its maximum a little below antennae, no trace of a knob. Antennae rather widely separated, strongly divaricate, first segment with a minute bristle, second rather long, arista long, about five times as long as antennae with short pubescence. Frontal area and orbits not marked off, whole head being shining, two small interfrontals, one small fine anterior and one long stout superior orbital both directed outwards, one even stronger posterior one directed inwards, one rather small externally directed external vertical, no small bristles behind eyes or at most 1-2 minute ones, no postverticals, a long, moderately divergent ocellar bristle on each side. Thorax a little longer than broad, mesoscutum with a minute humeral, a small notopleural and prealar, a moderate postalar, a strong dorsocentral situated on the suture, on each side, about 12 longitudinal rows of small microchaetes; scutellum rather small but less than twice as wide as long with hind margin strongly curved, basal bristles minute, apical bristles very long; sternopleuron with one moderately long, fine bristle. Prosternum elongate, anterior half linear, posterior half forming an elongate isosceles triangle. Wings (fig. 11, 12) in macropterous form with no real bristles on costa, second sector nearly twice as long as third which ends at R_{4+5} just in front of wing tip, R_{2+3} almost straight, a little curved onto costa at end, R_{4+5} almost straight, distance from *im* to *r-m* a little longer than twice length of *im*, M_{1+2} extending more than half way to margin, posterior angle of cell also with a short vein which is thick and about as long as *im*, anal vein straight, weak, alula narrow, pointed. Fore legs with coxa rather short about two-thirds as long as tibia, even femur without real bristles, except 3-4 very fine posteroventral ones near apex, basitarsus unmodified; mid legs with femur in ♂ only with a posteroventral row of 8-10 rather short, outstanding, well spaced bristles on basal two-thirds and a small anterior preapical, tibia with a strong dorsal bristle at 1|3 surmounted by a minute bristle, and with a strong dorsal bristle at 4|5

surmounted by a small anterodorsal and a still smaller and finer dorsal, a small (in both sexes) apicoventral, hardly longer than diameter of basitarsus which is long, more than half as long as tibia and has rather coarse short setulae beneath; hind leg rather long, tibia with a fine preapical, somewhat anterodorsal bristle, a microscopic anteroventral spur, second tarsal segment more than one and a half times as long as first. Abdomen much longer than broad, tergites 1+2 about as long as 3+4, tergite 5 (or? 5+6) about quadrate, considerably narrower than the preceding tergites, genitalia about as long and

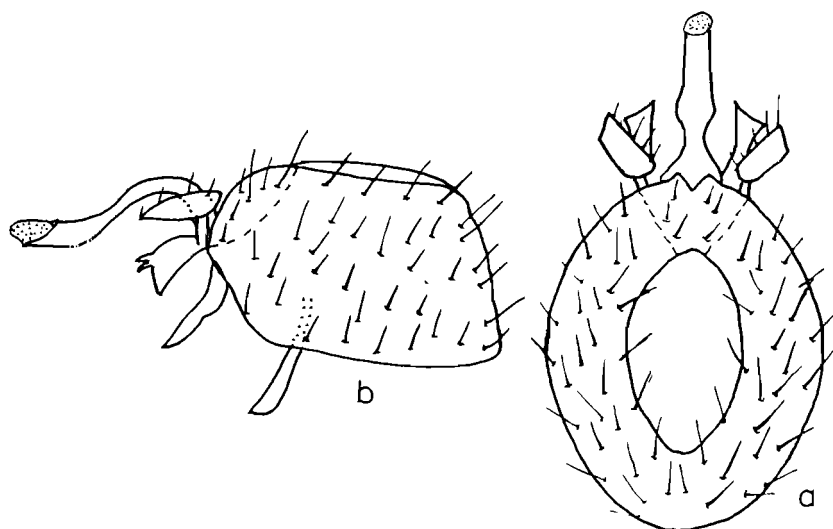


Fig. 13 *Limosinella polita* n.gen., sp.n. ♂ genitalia (a) dorsal, (b) right side.

broad as tergite 5, anal split directed backwards; ♂ with sternite 1 membranous, 2, 3 and 4 fully sclerotised transverse, 3 about twice as wide as long, all with short bristles, sternite 5 in ♂ strongly transverse, posterior margin generally feebly emarginate but on central third with a deeper rounded emargination in the centre of which there is a tongue-shaped projection three times as long as broad, at a somewhat lower level, the apex of the process bent back on itself to form what appears in profile as a distinct hook, the emargination preceded by somewhat dense, pale, moderately long, outstanding bristles. ♂ genitalia large, anal split relatively small, long oval, without sclerotised patches; ninth tergite with numerous, moderately long, outstanding bristles, cerci fused to the tergite and to one another, not separately visible; forceps in the form of a rectangular dorsal plate with corners a little rounded, inner margin with some long hairs, borne on relatively long narrow stalk attached to its outer edge rather before its mid-point, in addition a large broad ventral plate attached to the other end of the stalk and ending in two short points at its inner edge and a blunter one at its outer edge; posterior gonapophyses lying ventrally approximated, straight and somewhat pointed; eighth sternite (forked plate) very reduced, aedeagus issuing high up

then curved down and bent upwards again, S-shaped in profile, generally cylindrical with base and apex slightly expanded. Abdomen in ♀ a little broader than in ♂, margins slightly convex rather than straight, sternites membranous, sternite 2 black, fully sclerotised, one and a half times as wide as long, 3-5 outlined but mainly membranous with irregular dark spots, 6-8 visible as small but fully sclerotised segments, cerci short and relatively broad with four short bristles.

South Africa, Transvaal; Pietersburg district, Woodbush Forest, in humus, September, 1960, 1 ♂ holotype, 5 ♂ 9 ♀ paratypes (*N. Leleup*: ZA16a, 16b) Natal, Bergville district, Natal Drakensberg: forest in Indumeni Valley, 1600-1800 m. in humus, x. 1960, 1 ♀ paratype (*N. Leleup*: ZA23), forest along Oqalweni River, 1800 m., in humus, x. 1960, 1 ♂ 1 ♀ paratypes (*N. Leleup*: ZA26).

Wing-lengths. Brachypterous specimens, Transvaal: ♂ 0.75-1.15, ♀ 0.92-1.23 mm. Macropterous specimens, Natal: ♂ 1.89, ♀ 1.56, 1.85 mm. The short winged forms from the Transvaal were found about 585 km. away from the long winged forms in Natal but this is not surprising in a dimorphic species.

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